USSR

UDC 678.744.3-139.01:53

AMELINA, M. A., MAKASHOV, G. F., KHOROSHILOVA, I. P., BOCHARNIKOV, V. K., and BUBLIK, V. A.

"Radiation Hardening of Oligomeric Esteroacrylates"

Plasticheskiye Massy, No 4, Apr 71, pp 5-7

Abstract: The use of ionizing radiation for polymerization of unsaturated polyesters, conducted at elevated temperatures in the absence of catalysts, enables one to change the rate and the extent of the polymerization process within a broad range, control rigorously the degree of hardness of the obtained products, improve purity, homogeneity, decrease internal stresses of the products and impart to them higher thermal stability and mechanical strength. The purpose of the article was to study the effect of chemical structure of polyesters, particularly oligomeric esteroacrylates on the rate of their radiation polymerization, physical and mechanical properties of radiation hardened products and the magnitude of radiation dose which is necessary to produce materials with optimum physical and mechanical indices. Commerical oligomeric esteroacrylates were investigated: MGF-7, MGF-8, MGF-9 and TMGF-11. A cobalt-60 gamma radiation source was used at room temperature. The dose rate was 180 rad/sec. Thermochemical polymerization

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USSR

AMELINA, M. A., et al., Plasticheskiye Massy, No 4, Apr 71, pp 5-7

was conducted in parallel to radiation hardening for comparison. It was found that radiation polymerization of oligomeric esteroacrylates produces higher quality products than those obtained by ordinary thermochemical polymerization. Since the radiation doses which are needed in order to obtain radiation hardening of polymers are low the use of this method in certain cases is expedient.

2/2

USSR

BOCHARNIKOV, V. V.

UDC 550.837

"Radiowave Profiling Procedure"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 60, Patent No 270121, Filed 20 Oct 66

Translation: This Author's Certificate introduces a radiowave profiling procedure distinguished by the fact that in order to determine the depth of an ore body the maximum reflected fields are found for two different positions of the transmitting and receiving antennas with given radiation patterns.

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USSR

UDC 616.155.3-008.13:576.858.13.095.383

BOCHAROV, A. F., MOYSIADI, S. A., AMCHENKOVA, A. M., VORONINA, F. V., and KHESIN, YA. YE., Chair of Virology, Central Institute of Advanced Training of Physicians, Ministry of Health USSR, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"The Effect of Immunological Reactivity of Rabbit Leukocytes and Macrophages on Interferon Production in the Presence of Herpes Virus"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 725-731

Abstract: Upon contact with herpes virus in vitro, interferon is produced in small amounts by leukocytes obtained from the peripheral blood of control rabbits, in larger amounts of leukocytes and macrophages obtained from the peritoneal exudate of control rabbits, and in the largest amounts and at the fastest rate by peritoneal leukocytes and macrophages of perviously immunized rabbits. After vaccination, white blood cells mobilized in the peritoneal exudate have a faster metabolic rate, including a higher activity of oxidative and hydrolytic enzymes and a greater RNA concentration, than in the control state, and they also absorb the antigen more readily. Evidence indicates that these factors are responsible for the augmented production of interferon.

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USSR

UDC 576.858.6:616.155.392

BARINSKIY, I. F., SHUBLADZE, A. K., BOCHAROV, A. F., FILATOV, F. P., and DEMENT'YEV, I. V., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Leukocytic Virus of Human Leukemia"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 729-730

Abstract: Three virus strains were isolated from donor cultures obtained from leukemia patients. The strains were not stable and decomposed on treatment with ether or after thermo-inactivation at 60°C for 30 minutes. They were apathogenic with respect to test animals (rabbits, adult mice, rats, guinea pigs) and chick embryos. They did not exhibit pronounced cytopathic activity in lung tissue and similar cultures. The leukocytic leukemia virus was found to have a density of 1.184 g/cm^3, which corresponds to the densities of known leukosis viruses of mice and birds. Electron-microscopic studies established the existence of typical leukemia particles with the characteristic morphology.

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1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--FUNCTIONAL PECULIARITIES OF A BLOCKED TRANSMISSION OF AN AUTOMOBILE WITH A 4X4 WHEEL CONFIGURATION -U-

AUTHOR-(02)-BOCHAROV, N.F., MAKAROV, S.G.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AVTOMOBIL'NAYA PROMYSHLENNOST', NO 2, 1970, PP 8-10

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ROAD WHEEL, BIBLIOGRAPHY, TRANSMISSION GEAR, AUTOMOBILE, TORQUE, SOLID KINEMATICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1206 STEP NO--UR/0113/70/000/002/0008/0010

CIRC ACCESSION NO--AP0123170

UNCLASSIFIED

2/2 016 UNCLASSIFIED

CIRC ACCESSION NO--AP0123170 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDY THE OPERATIONAL SPECIFICS OF A BLOCKED TRANSMISSION, EQUALIZATION OF THE FREE PLAY RADII OF DRIVING WHEELS, AND CONDITIONS WHICH ARE ACCOMPANIED BY EQUALIZATION. THE OBTAINED RELATIONSHIPS EXPAND THE LIMITS FOR USING THE ANALYTICAL METHOD IN STUDYING THE REDISTRIBUTION OF TORQUE IN KINEMATIC MISMATCH.

UNCLASSIFIED

Stress Analysis and Stability Studies

USSR

UDC: 620.10

CHIZHOV, V. F., BOCHAROV, N. I., ANTONOV, A. S.

"Joint Deformation of Rings and Shells of Rotation with Arbitrary form of Generatrix"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 11, 1972, pp 5-11.

Abstract: The possibility of approximation of an arbitrary envelope of rotation by a system of 0-moment shells and rings was demonstrated in an earlier work. This work suggests that the solution produced earlier for a conical shell be extended to an envelope of rotation with arbitrary form of generatrix, which can be approximated by a finite number of truncated conical shells. The accuracy of approximation of the envelope of rotation by the truncated conical shells is related to the possibility of solution of the system of linear algebraic equations by computer. The problem of deformation of envelopes of rotation with arbitrary form of generatrix and rings under the influence of local stresses is studied. The envelopes is assumed to be a 0-moment envelope, the ring is deformed in its own plane. Calculations and experiments confirming the correctness of the method suggested are presented.

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USSR UDC: 681.3

LIPAYEV, V. V., BOCHAROV, P. P.

"Probability of Message Loss in the Buffer Memory of Digital Control Computers in the Case of Poisson Input Flow"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 6, Moscow, "Sov. radio", 1971, pp 106-111 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V695)

Translation: A digital control computer with limited buffer memory for storing messages entering at random moments of time is treated as a single-channel queueing system. A recurrent algorithm for determining the probability of message loss in the case of memory overflow is proposed for cases of constant message processing time and random message flow distributed by Erlangian law. A simple expression which closely approximates the exact values of the probability of message loss is given for engineering calculations. The results can be used to determine the buffer memory volume, assigning a message loss probability under fairly typical conditions of message processing time. Authors' abstract.

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USSR

UDC: 519.152

BOCHAROV, P. P.

"A Single-Line Queueing System with Limited Number of Positions for Waiting and Priorities"

Moscow, Problemy Peredachi Informatsii, Vol 6, No 3, 1970, pp 70-77

Abstract: A single-line queueing system with two Poisson input flows of requests is studied. The durations of servicing of requests in the two flows are distributed arbitrarily. The system has a finite number of waiting positions. The following case is studied: a relative priority is established in selecting requests from the line for servicing, while an absolute priority is used in placement of requests in the line. The system is analyzed using linear Markov processes. To calculate the stable distribution of the probabilities of this system an algorithm is produced which is reduced to solution of a heterogeneous system of r + 1 linear algebraic equations, where r is the number of waiting positions in the system.

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USSR

UDC 519.217

BOCHAROV, P. P.

"Calculation of Stable Probabilities in a System With Relative Priority and Limited Line"

Sb. Nauchn. Rabot. Aspirantov. Un-t. Druzhby. Narodov Im. Patrisa Lumumby. Fak. Fiz.-Matem. i Yestestv. N., [Collected Scientific Works of Graduate Students of Patrice Lumumba Friendship University, Physics-Mathematics and Natural Sciences Department], 1970, No 7, pp 3-9, (Translated from Referativnyy Zhurnal Kibernetika, No. 5, 1971, Abstract No. 5V67 by I. Kovalenko).

Translation: A single-line queueing system is studied, servicing two types of requests. There are r waiting positions. When requests are selected from the line, requests of the first type have relative priority. The duration of servicing of requests of the two types is arbitrarily distributed with finite first moments. The stable distribution of probabilities for states of the system is found.

Abstractor's Note. The condition of continuity of the distribution of servicing lengths used in this article is not related to the essence of the problem, but rather to the method used, and can be easily dropped.

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USSR

UDC 622.7:622.343

BOCHAROV, V. A., KULIGIN, S. A., and ARZHANNIKOV, G. I.

"Extraction of Zinc and Gold From Ural Copper-Zinc Ores"

Moscow, Tsvetnyye Metally, No 10, Oct 70, pp 80-82

Abstract: This article deals with problems related to the extraction of Zn and Au from Cu-Zu ores by the method of collective-selective flotation at various Ural ore concentration plants. Zinc extraction varies between 44 and 69%, and its losses are ~25% in pyrite concentrates, and 10% in copper concentrates. Causes of zinc losses are discusses. Measures for improving the qualitative and quantitative concentration indices at various plants are outlined. It is stated that the extraction of Au from Ural ores presents even greater problems, and that despite new procedures increases in output have been insignificant. The causes of low Au output level are examined and the possibilities for increasing the output from compact pyrite ores are considered. The realization of a complex processing of pyrite concentrates (containing 1.5 g/ton Au) is one of the urgent problems.

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1/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--PROSPECTS FOR ADOPTING CYANIDE FREE TECHNOLOGY FOR CONCENTRATING COPPER ZINC ORES FROM THE URALS -U-

AUTHOR-(03)-FILIMONOV, V.N., BOCHAROV, V.A., ARZHANNIKOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(4), 92-3

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOGRAPHIC LOCATION, COPPER ORE, ZINC, ORE BENEFICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1904 STEP NO--UR/0136/70/043/004/0092/0093

CIRC ACCESSION NO--AP0132166

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0132166
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CYANIDE FREE BENEFICATION OF URAL CU,ZN ORES USING NA SUB2 S AND ZNSO SUB4 TOGETHER WITH SULFOXIDES AS DEPRESSORS UNDER LAB. CONDITIONS IS DESCRIBED. THE METHOD REDUCES THE CONSUMPTION OF REAGENTS BY LARGER THAN 20 KOPECKS PER TON OF PROCESSED ORE, IMPROVES THE QUALITY OF THE WASTE WATER, AND IMPROVES WORKING CONDITIONS.

B

USSR

[illegible] V. F., [illegible], A. L., [illegible], and [illegible], G. F., Zhdanov Metallurgical Plant Azovstal [illegible]

"Effect of Straightening on the Changes in Mechanical Properties of Drawn Cold-Rolled Sheet Steel"

Moscow, Stal', No 12, Dec 70, pp 1121-1122

Translation: The straightening of strips in the lines of continuous pickling units leads to a change in the mechanical properties of cold-rolled drawn steel. The tensile strength increases and the relative elongation, the depth of hole extrusion according to Erikson, the yield point, and the hardness decrease. The reduction of strip thickness brings about a reduction in the efficiency of straightening according to mechanical properties.

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1/2 035 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--CROWDING OF THE RADIO FREQUENCY SPECTRUM IN THE BAND BETWEEN 16 AND 25 MHZ -U-
AUTHOR-(02)-ASHKALIYEV, YA.F., BUCHAROV, V.I.

B

COUNTRY OF INFO--USSR

SOURCE--IN: MORPHOLOGY OF THE QUIET AND PERTURBED IONOSPHERE (A70-36084 18-13) AKADEMIIA NAUK KAZAKHSKOI SSR, SEKTOR IONOSFERY, TRUDY, VOLUME 1)
DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION, ATMOSPHERIC SCIENCES

TOPIC TAGS--IONOSPHERIC SCATTER COMMUNICATION, RADIO COMMUNICATION, F LAYER, SOLAR ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605029/B07 STEP NO--UR/0000/70/001/000/0067/0072

CIAC ACCESSION NO--AT0141679
UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0141679

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF RECORDINGS OF ALL STATIONS TRANSMITTING IN THE 16 TO 23 MHZ BAND, PERFORMED CONTINUOUSLY THROUGHOUT 1965 IN ORDER TO ASSESS THE INTERFERENCE TO BE EXPECTED FOR SHORT WAVE IONOSPHERIC SCATTER RADIO COMMUNICATIONS AND TO STUDY THE ACTUAL CROWDING OF THIS BAND. IT IS FOUND THAT TEREE EXISTS A DISTINCT RELATIONSHIP BETWEEN THE NUMBER OF RADIO STATIONS AND THE BEHAVIOR OF THE MAXIMUM USABLE FREQUENCY OF THE F2 LAYER; THESE FREQUENCIES ARE USUALLY BELOW 16 MHZ DURING MINIMUM SOLAR ACTIVITY AND AT NIGHTTIME. WAVELENGTHS FREE OF INTERFERENCE ARE STILL AVAILABLE IN THE BAND BETWEEN 18 AND 23 MHZ.

UNCLASSIFIED

1/2 036 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--RADIO WAVE PROPAGATION AT FREQUENCIES ABOVE THE F2 MAXIMUM USABLE FREQUENCY IN THE SHORT WAVE REGION -U-

AUTHOR-(02)-ASHKALIYEV, YA.F., BOCHAROV, V.I.

COUNTRY OF INFO--USSR

SOURCE--MORPHOLOGY OF THE QUIET AND PERTURBED IONOSPHERE (A70-36084 18-13) ALMA-ATA IZDATEL'STVO NAUKA (AKADEMIIA NAUK KAZAKHSKOI SSR, SEKTOR

DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION, ATMOSPHERIC SCIENCES

TOPIC TAGS--RADIO WAVE PROPAGATION, F LAYER, E LAYER, DIURNAL VARIATION, IONOSPHERIC SCATTER COMMUNICATION, SEASONAL VARIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/6C5029/B07 STEP NO--UR/0000/70/001/000/0062/0066

CIRC ACCESSION NO--AT0141678

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AT0141678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF FIELD INTENSITY AND SNR MEASUREMENTS PERFORMED OVER EXPERIMENTAL SHORT WAVE IONOSPHERIC SCATTER COMMUNICATION LINES. IT IS SHOWN THAT THE SEASONAL AND DIURNAL VARIATIONS OF THE FIELD INTENSITY ARE DIRECTLY RELATED TO THE SEASONAL AND DIURNAL VARIATIONS OF SOLAR AND METEOR ACTIVITY. THE INFLUENCE OF REFLECTION FROM THE SPORADIC E LAYER ON THE PROPAGATION OF SHORT RADIO WAVES AT FREQUENCIES ABOVE THE MAXIMUM USABLE FREQUENCY OF THE F2 LAYER IS EXAMINED. WHEN PENCIL BEAM TRANSMITTING ANTENNAS AND 20 KW TRANSMITTERS ARE EMPLOYED, THE MEAN SNR VALUE IS NEVER LESS THAN 20 DB, EVEN IN SEPTEMBER (WORST PROPAGATION CONDITIONS).

UNCLASSIFIED

USSR

UDC 576.858:616-002.77

BOCHAROV, Ye. F., YAVOROVSKAYA, V. Ye., SHKURUPIY, V. A., BLINOVA, L. I., and KAZNACHEYEV, V. P., Novosibirsk Medical Institute, and Central Order of Lenin Institute of Advanced Training of Physicians, Moscow

"Morphogenesis of Coxsackie A 13 Virus Isolated From Rheumatic Fever Patients"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10 (190), 1971, pp 131-137

Abstract: Light and electron microscope examination of human embryonic fibroblasts infected with Coxsackie A 13 virus, strain 689, isolated from rheumatic fever patients, showed that the nature and dynamics of the observed changes were identical to those in fibroblasts infected with the prototype virus. Signs of degeneration were evident within 6 to 8 hours when the virus began to reproduce and emerge from the cells. Two hours later eosinophilic and basophilic inclusions appeared in most of the affected cells. As the infection developed, the nucleus shifted to one of the poles. Structural changes in the cell organelles, especially the mitochondria, were prominent. Complex membranous-vesicular structures consisting of cytoplasmic vacuoles formed around the cells. Discrete granules were scattered about the cytoplasm. Virus particles concentrated on the periphery of the cells. These findings

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USSR

BOCHAROV, Ye. F., et al., Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10 (190), 1971, pp 131-137

are in agreement with the results of morphological studies on other picorna viruses and support the view that virus isolated from rheumatic fever patients belongs to the enterovirus group.

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USSR

UDC: 621.372.852

BOCHAROV, Ye. V., SMIRNOV, N. N.

"A Simple Three-Pole Circuit of RLC-Phase Inverter"

Moscow, Radiotekhnika, Vol 25, No 2, 1970, pp 106-107

Abstract: The advantage of the suggested RLC phase inverter is that it can operate with a relatively large capacitive load. It differs from the bridge-type phase inverter that it has three terminals.

This study aimed to analyze the performance of such a phase inverter with due consideration for losses in the inductive and resistive loads. It was shown that the modulus of the transfer constant of the RLC phase inverter is equal to unity independently of the value of phase shift for certain conditions of the input signal. If the phase shift does not exceed 100^{o}, then the scale of the phase inverter remains sufficiently linear with the use of variable resistor type A as a regulating element. The destabilizing effect of the capacitive load is reduced by increasing the capacitance of the phase inverter.

The fundamental relations characterizing the RLC phase inverter were derived, which assist in selection of proper elements of the circuit and calculation of the basic parameters of the inverter.

BOCHAROV, Yu. S.

Biology

THE RATE OF INDIVIDUAL [illegible] OF ANIMALS

(Conference in Moscow)

[Article by Candidate of [illegible], Moscow, [illegible] 1971, pp [illegible]]

An All-Union Conference on Individual Development of Animals was organized by the [illegible] and Ecology of Animals [illegible]. The conference attracted [illegible] physiologists, [illegible] 44 reports were presented [illegible] scientific centers of the country [illegible] Japan in the conference [illegible] tigues: heterochronia [illegible] variations in the rate [illegible] animals, and methods of [illegible] rate of individual [illegible]

In the report [illegible] importance to theoretical [illegible] crisis," which examines [illegible] term [illegible] for the [illegible] of [illegible] [illegible] the regularities of [illegible] chronic development [illegible] the report gave [illegible] of heterochronia, [illegible] the question.

[illegible] also spoke on [illegible] I. Sukhov on the [illegible] formation of the [illegible] V. Yanchilyanov on [illegible]

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1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ASCITIC FLUIDS OF VACCINATED RATS AND THEIR PROPERTIES -U-

AUTHOR-(02)-BOCHAROVA, N.G., ANDREYEVA, Z.M.

B

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6, PP 108-112
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, RAT, TISSUE FLUID, ANTIBODY, NITROGEN COMPOUND, SEROLOGIC TEST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0395 STEP NO--UR/0016/70/000/006/0108/0112

CIRC ACCESSION NO--AP0126150
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0126150

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING STRAIN OR OF ASCITIC TUMOUR OF RATS CAUSING ACCUMULATION OF ASCITIC FLUID, THE AUTHORS OBTAINED IMMUNE HIGHLY SPECIFIC ASCITIC FLUIDS CONTAINING ANTIBODIES AGAINST BORDETELLA IN TITRES OF 1:10,240-1:81,920. A STUDY WAS MADE OF PHYSICAL INDICES, TOTAL NITROGEN AND PROTEIN NITROGEN IN THE ASCITIC FLUIDS, IN COMPARISON WITH THE SERA FROM INTACT AND VACCINATED RATS. ASCITIC FLUIDS RELEASED OF TUMOUR CELLS BY CENTRIFUGATION AND TREATED WITH MERTHIOLATE BECAME TURBID AFTER 10 TO 11 DAYS OF STORAGE. TO STABILIZE THE PHYSICAL INDICES A METHOD OF SIMULTANEOUS DEFIBRINATION AND TREATMENT OF ASCITIC FLUID WITH CHLOROFORM (1:10) WAS ELABORATED. THE CONTENT OF TOTAL NITROGEN AND OF PROTEIN NITROGEN WAS DETERMINED CALORIMETRICALLY WITH NESSLER'S REAGENT; GENERAL REGULARITIES ATTENDING ELEVATION OF PROTEIN CONTENT IN THE SERA SPECIFIC ANTIBODIES AGAINST BORDETELLA CAN BE USED FOR PRIMARY SEROLOGICAL SELECTION OF COLONIES GROWN ON SOLID MEDIA, AND FOR SPECIES IDENTIFICATION OF BORDETELLA.

FACILITY: GOSUDARSTVENNYY KONTROL'NYY INSTITUT MEDITSINSKIKH BIOLOGICHESKIKH PREPARATOV IM TARASEVICHA, MOSKVA.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200410018-3"

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--PREPARATION OF IMMUNE ASCITIC FLUIDS CONTAINING ANTIBODIES AGAINST SALMONELLA ON RATS -U-

AUTHOR-(04)-BOGOYAVLENSKAYA, L.B., ALTSHTEYN, A.D., BOCHAROVA, N.G., TSETLIN, YE.M.

COUNTRY OF INFO--USSR

B

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5, PP 80-83

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SALMONELLA, ANTIBODY, WHITE RAT, IMMUNOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0100 STEP NO--UR/0016/70/000/005/0080/0083

CIRC ACCESSION NO--AP0114496

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0114496
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DEMONSTRATED THE POSSIBILITY OF OBTAINING ASCITIC FLUID FROM ALBINO RATES BY THE METHOD OF INTRAPERITONEAL INJECTION OF TUMOR CELLS OF OR STRAIN. FOR THE FIRST TIME THERE WERE OBTAINED IMMUNE ASCITIC FLUIDS CONTAINING ANTIBODIES TO VARIOUS SALMONELLA ANTIGENS. IT WAS SHOWN THAT REGULARITIES OF FORMATION OF ANTIBODIES IN RATS WERE IDENTICAL TO THESE REGULARITIES IN OTHER EXPERIMENTAL ANIMALS (RABBITS, SHEEP). IT IS RECOMMENDED TO USE ALBINO RAT AS A MODEL FOR IMMUNOLOGICAL EXPERIMENTS IN STUDYING SPECIFIC ANTIBODIES TO SALMONELLAE. FACILITY: KONTROL'NYY INSTITUT MEDITSINSKIKH BIOLOGICHESKIKH PREPARATOV IM. TARASEVICHA.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--INFLUENCE EXERTED BY ETHYLENEDIAMINETETRAACETIC ACID (EDTA) ON THE ANTICOAGULANT PROPERTIES AND DYNAMICS OF SCANDIUM EXCRETION FROM THE

AUTHOR-(05)-LAKIN, K.M., ZIMAKOV, YU.A., MENKOV, A.A., BOCHAROVA, R.I., TSZYU, N.P.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(1), 87-90

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SCANDIUM, RABBIT, BLOOD COAGLATION, KIDNEY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1157 STEP NO--UR/0390/70/033/001/0087/0090

CIRC ACCESSION NO--AP0115176

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115176

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SC ACETATE ADMINISTERED I.V. TO RABBITS AT 20 MG-KG DECREASED BLOOD COAGULATION, WITH THE MAX. EFFECT ACHIEVED AFTER 2 HR AND LASTING FOR GREATER THAN 6 HR. THE ANTICOAGULANT PROPERTIES WERE LESS THAN THOSE OF THE LANTHANIDES AND Y. SC BLOOD CONCN. GRADUALLY DECREASED FOR THE 1ST FEW DAYS AFTER ADMINISTRATION, AND AFTER 1 DAY SIMILAR TO 20PERCENT OF THE ELEMENT HAD BEEN EXCRETED THROUGH THE KIDNEYS. EDTA COMBINED WITH SC ACETATE HAD ALMOST NO EFFECT ON THE BLOOD SC CONCN, BUT SHARPLY INCREASED ITS RENAL EXCRETION AND SHARPLY REDUCED ACUTE TOXICITY AND ANTICOAGULANT ACTION.

FACILITY: TSENT. NAUCH.-ISSLED. LAB., MOSK. MED. INST. IM. PIROGOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.785.78.784:621.88.085

BOCHAROVA, T. T. and KRIMER, B. I., Moscow Institute of Steel and Alloys

"Effect of Extended Aging on the Structure and Strength of Alloy AMg6-Ni-POS40 Braze Joints"

Moscow, Metallovedeniye, No 3, 1973, pp 62-64

Abstract: The effect of extended (up to 2500 hours) action of increased temperatures of 50, 100, and 150°C on the structure, phase composition, and shear strength was investigated for braze joints made using AMg6 alloy coated with a 20-40 micron layer of electrolytic nickel. Prior to brazing, the coated blanks measuring 50 x 20 x 3 mm were annealed in argon at 325°C for one hour to improve the bonding of the coating. Brazing was done using LM-1 flux at 280°C for POS40 braze alloy and at 230°C for POS61. The process of aging brazing alloys in the braze joints is completed after 100 hours at 50-150°C. The strength of the braze joints, tested at room temperature, was lowered by 20-30% as a result of aging the braze alloys. The strength of the aged joints, tested at -196°C, with increased aging time at 50-150°C, is gradually lowered

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USSR

BOCHAROVA, T. T. and KRIMER, B. I., Metallovedeniye, No 3, 1973, pp 62-64

20-25% after soaking for 2500 hours, which is caused by the increase in the width of the Ni_3Sn_4 layer. The indicated changes in structure and strength do not impair the operational capability of AMg6-Ni-POS40(POS61) braze joints at room, cryogenic, and elevated temperatures. 3 figures, 1 table, 1 bibliographic reference.

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USSR

UDC 620.1+621.9.038

VERESHCHAGIN, L. F., Academician, SEMERCHAN, A. A., MODENOV, V. P., BOCHAROVA, T. T., DMITRIYEV, M. YE., Institute of High-Pressure Physics of the Academy of Sciences USSR, Moscow

"Synthetic Diamond -- A Material for High-Pressure Chambers of the Order of a Megabar"

Moscow, Doklady Akademii Nauk SSSR, Vol. 195, No. 3, 21 Nov 70, pp 593-594

Abstract: The problem of obtaining pressures of 1 megabar and above in high-pressure chambers can be solved, in the opinion of the authors, by using composition materials based on synthetic microcrystalline diamonds. It is noted that pressures that can be achieved in high-pressure equipment depend not only on the construction of the equipment but also primarily on the physicomechanical properties of materials used to make the essential parts of the equipment. Tungsten carbide is known to become so plastic after reaching a pressure, in the central part of the equipment of the order of 400 kbar that a further increase in load does not lead to an appreciable rise in pressure inside the chamber. The example given for the reason for interest in achieving pressures of the order of several megabars is the theoretical calculations

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VERESHCHAGIN, L. F., et al, Doklady Akademii Nauk SSSR, Vol. 195, No. 3, 21 Nov 70, pp 593-594

of Schneider [Helv. Phys. Acta, 42. Fasc. 7/8, 957(1969)] who showed that it is possible to obtain metallic hydrogen at a pressure of the order of 2 megabars which probably has the properties of a superconductor with a high critical temperature. Samples of the materials were produced in a high pressure and temperature device of large capacity. Pressure was necessary in this case not only to reduce the graphitization of the diamond grain under heating but also to produce a sufficiently dense diamond-containing briquet. A metallographic study of the structure showed a predominance of diamond crystals, while the binding was the smaller portion of the volume of the material. The diamond grains have multiple contacts and apparently form a three-dimensional framework, as distinct from existing abrasive compositions in which diamond crystals are isolated from one another by the binder. The hardness of samples with a grain size of 2-3 μ was on the average 97 HRA. The elastic modulus as determined by an ultrasonic method on samples of size 12 × 8 mm with a grain size of 10-15 μ was ~60,000 kG/mm^2. It is concluded that exceptional hardness exceeding the hardness of known metallo- and mineral-ceramic solid alloys, in combination with a sufficiently high elastic modulus-can be obtained in diamond compositions with a high concentration of diamond and a minimum concentration of binder made by the application of high pressures.

2/2

USSR

YEGIYAN, K. SH., BOCHEK, G. L., KULIBABA, V. I., and GRISHAYEV, I. A., Yerevan Physics Institute and Engineering Physics Institute of Academy of Sciences Ukrainian SSR

"Angular and Energy Distribution of Proton in (γp) and (ep) Reactions at C^{12} Nuclei for Excitation Energies up to 130 Mev"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Fizika, Vol 6, No 3, 1971, pp 161-167

Abstract: Measurements of cross sections (γp) and (ep) of reactions at C^{12} nuclei for excitation energies up to 130 MeV are reported. The study was performed on the 300-Mev linear electron accelerator of the Engineering Physics Institute of the Academy of Sciences Ukrainian SSR. A beam of electrons in the linear accelerator, turned once, was focused on a 0.083 radial units-thick target located in the scattering chamber connected by vacuum with the accelerator. The angle between beam direction and normal to the target surface was 45°. The electron beam intensity was measured by a secondary emission monitor at two gold foils with total thickness of 20 microns. Secondary protons were identified by the "impulse-flight" method. The total yield of protons was measured in the following reactions: $\gamma + C^{12} \rightarrow$

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YEGIYAN, K. SH., et al., Izvestiya Akademii Nauk Armyanskoy SSR, Fizika, Vol 6, No 3, 1971, pp 161-167

p + B, and e + $C^{12} \rightarrow$ e' + p +B. Results were compared with the quasi-deuteron and one-particle models of photon absorption in nuclei. The best agreement of theoretical and experimental energy spectra was achieved at B = 60 MeV (V is the value of the potential at the bottom of the potential well). In the comparison made with the one-particle model of photon absorption, agreement between experimental and calculated values for both energy and angular spectra could not be obtained. However, the findings showed that in the region of excitation energy below the meson production threshold, data on the reactions (γ p) and (ep) at complex nuclei do not contradict either the quasideuteron or the one-particle model of photon absorption.

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USSR UDC 539.1

YEGIYAN, K. SH., BOCHEK, G. L., GRISHAYEV, I. A., ALANAKYAN, K. V., KULIBABA, V. I., and SITENKO, M. L., Yerevan Physics Institute, Physicotechnical Institute of the Academy of Sciences Ukrainian SSR

"Apparatus for the Study of Direct Nuclear Reactions Caused by Electrons and Gamma Quanta With an Energy of Up to 300 Mev"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Vol 5, No 5, 1970, pp 381-391

Abstract: The article gives a description of an apparatus designed for studying nuclear structure and the character of the interactions of electrons and gamma quanta with a maximum energy of up to 300 Mev. A focused beam of the 300-Mev Khar'kov linear accelerator goes from a parallel transfer system over a vacuum electronic conductor into a scattering chamber. Revolving around the latter on a fixed platform are two magnetic analyzers designed to record secondary reaction particles produced by the gamma quanta or electrons. Situated on an extension of the electronic

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YEGIYAN, K. SH., et al., Izvestiya Akademii Nauk Armyanskoy SSR, Vol 5, No 5, 1970, pp 381-391

conductor after the scattering chamber is a secondary emission monitor for the relative measurement of the electron beam intensity. After the secondary emission monitor the electron beam is absorbed by a burial ground of heavy concrete blocks. The apparatus was tested by measuring the elastic-scattering cross-section for electrons on a free proton in a CH_2 target. A feature of the apparatus is that it works under a high background level from the electron beam. The calibration measurements performed indicate that the apparatus permits the study of direct nuclear reactions with a cross-section of $\geq 2 \cdot 10^{-3}$ sq cm/steradian.

The authors thank A. I. ALIKHANYAN, Corresponding Member of the Academy of Sciences USSR, and Professor V. M. KHARITONOV, Sector Chief of Yerevan Physics Institute, for their interest in the work and repeated discussions; N. I. MOCHESHNIKOV, Sector Chief of the Physicotechnical Institute, for his assistance in

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YEGIYAN, K. SH., et al., Izvestiya Akademii Nauk Armyanskoy SSR, Vol 5, No 5, 1970, pp 381-391

organizing and carrying out the work, E. V. TER-MINASYAN, Chief of the Design Bureau of Yerevan Physics Institute, and Senior Engineer G. G. MAMIKONYAN for designing the apparatus;

L. A. MAKHNENKO, Sector Chief of the Physico-technical Institute, Academy of Sciences Ukrainian SSR, G. A. DEMYANENKO, Chief of the LU-300 Installation, and the entire LU-300 installation staff for their daily assistance in carrying out the experiment; and G. O. OVSEPYAN, D. A. ZARGARYAN, and L. A. SARKISYAN, staff members of Yerevan Physics Institute, for their part in the work of preparing and testing the apparatus and their part in the physical measurements.

USSR UDC 621.791.947.55.669.71:662.614

KUDINOV, V. V., Candidate of Technical Sciences (Institute of Metallurgy im. A. A. Baykov), TARAN, V. D., Doctor of Technical Sciences (Deceased), BOCHENIN, V. I., Engineer (Moscow Institute of the Petrochemical and Gas Industry)

"Energy Balance of the Plasma Arc in Aluminum Cutting"

Moscow, Svarochnoye Proizvodstvo, No 6, Jun 70, pp 6-7.

Abstract: The energy balance of a plasma arc in cutting A99 aluminum (20 mm thick) was determined on the basis of calorimetric measurements and calculations of heat propagation in the solid metal. An increase in the arc energy produced a redistribution of the effective heat energy received by the metal. The amount of energy consumed in the melting of the metal increased from 15 to 40%, while the heat absorbed by the solid metal decreased from 60 to 40%. The parameters of the cutting conditions strongly affected the arc efficiency. The efficiency coefficient η_u increased from 70 to 80% with increasing arc energy, while the $\eta_t = q_1/N$ coefficient, where q_1 is the thermal energy absorbed by the solid metal and N is the arc power, decreased to a minimum value (40%). The reduction in cutting rate under the optimum value led to unproductive losses in overheating the melted metal. The energy level q_e/G necessary for evacuating 1/g of metal from the cutting region was constant and did not depend on cutting productivity.

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BOCHENIN V.I.

Acc. Nr.: AP0046751 Ref. Code: U R O U

USSR UDC 621.791.947:621.387.143

KUDINOV, V. V., TARAN, V. D., BOCHENIN, V. I.

"Thermal Effect of a Plasma Arc on Metal"

Kiev, Avtomaticheskaya Svarka (Automatic Welding), No 1, 1970, pp 1-4 (from Avtomaticheskaya Svarka, No 1, 1970, p 79)

Translation: This article contains a study of the processes of propagation and equalization of heat in a solid metal cut by a plasma arc. There are 5 illustrations and a 4-entry bibliography.

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Reel/Frame
19790055

USSR UDC: 621.3.019.3

BOCHENKOV, Yu. I.

"Application of Correlation Analysis to the Calculation of Climatic Errors in the Parameters of Functional Modules of Radio Electronic Equipment"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 212, pp 72-88 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A88)

Translation: The author considers the use of correlation analysis for estimating the probable limits of variation in the output parameters of functional modules under the effect of climatic destabilizing factors. It is shown that correlation analysis can be used to construct an analytical model of the unit, which can be used as a basis for predicting errors in the output parameters for given operating conditions. Four illustrations, four tables, bibliography of four titles. N. S.

1/1

USSR UDC 389.6.539.125.5.07:621.039.564.2

ARABEY, B. G., BOCHIN, V. P., GARAPOV, E. F., LOMAKIN, S. S., PETROV, V. I., SAMOYLOV, P. S., KHMYZOV, V. V.

"Standardization of Measurements of Neutron Flux Density in Nuclear Reactors"

Tr. Soyuz. NII Priborostr. [Works of Union Scientific Research Institute for Instrument Building], 1972, No 17, pp 3-8, (Translated from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 7, 1972, Abstract No 7.32.1364, from the Resume).

Translation: Problems of standardization of means and methods of measurement of neutron field parameters in nuclear reactors in order to provide unity and correctness of measurement of these parameters are discussed. One means of standardization is the use of activation detectors. Recommendations are presented for the composition of standard sets of activation detectors. It is suggested that a "standard" source of thermal neutrons based on the F-1 graphite reactor be used to calibrate detectors used for continuous measurements in reactors. The parameters of the neutron field in the reactor (arbitrary flux density, epithermal parameter, neutron gas temperature) are measured using activation detectors with errors of 2.5-3%. The use of the source described can allow calibration of neutron detectors with an accuracy of 4-7%.

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1/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFLUX OF RAREFIED GAS MIXTURES FROM OPENINGS -U-

AUTHOR-(04)-BOCHKAREV, A.A., KOSINOV, V.A., PRIKHODKO, V.G., REBROV, A.K.

COUNTRY OF INFO--USSR

B

SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, APR. 1970, P. 653-660

DATE PUBLISHED----APR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RAREFIED GAS, GAS PRESSURE, MOLECULAR KINETICS, FREE MOLECULAR FLOW, MULTICOMPONENT CHEMICAL MIXTURE, CARBON DIOXIDE, HELIUM, EXPANDING GAS, FLOW VELOCITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1382 STEP NO--UR/0170/70/018/000/0653/0660

CIRC ACCESSION NO--AP0125030

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200410018-3"

2/2 036 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0125030

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE EFFLUX OF A GAS MIXTURE, WHOSE COMPONENTS DIFFER GREATLY IN MOLECULAR WEIGHTS, FROM AN OPENING OVER A WIDE RANGE OF PRESSURES. IT IS SHOWN THAT FOR A MIXTURE EXPANDINUNDER FLOW CONDITIONS CORRESPONDING TO THE TRANSITION FROM CONTINUOUS TO FREE MOLECULAR FLOW, A PRONOUNCED DIFFERENCE BETWEEN THE VELOCITIES OF THE MIXTURE COMPONENTS MAY BE OBSERVED. CONSEQUENTLY, THE CONCEPT OF DISCHARGE COEFFICIENTS OF THE MIXTURE COMPONENTS IS INTRODUCED. FORMULAS FOR CALCULATING THE DISCHARGE COEFFICIENTS FOR MOLECULAR FLOW CONDITIONS ARE DERIVED, AND NUMERICAL RESULTS FOR A MIXTURE OF HELIUM WITH CARBON DIOXIDE ARE OBTAINED. FACILITY: AKADEMIIA NAUK SSSR, INSTITUT TEPLOFIZIKI, NOVOSIBIRSK, USSR.

UNCLASSIFIED

USSR UDC 62-501.7:629.7.015

BOCHKAREV, A. F., MOSTOVOY, YA. A.

"Analysis of the Sensitivity of Weakly Damped Nonstationary Linear Systems"

Kazan', Izvestiya vysshikh uchebnykh zavedeniy - Aviatsionnaya tekhnika, No. 2, 1971, pp. 5-12

Abstract: Problems associated with obtaining modified functions of the sensitivity for linear nonstationary automatic control systems are discussed. Previous studies by the authors dealing with an approximate solution of a system of differential equations describing the behavior of an automatic control system showed that an approximate solution for weakly damped systems obtained on the basis of sensitivity theory methods is of satisfactory accuracy only for small variations in the parameters. Equations were also found for the approximation error (the difference between the exact and approximate solution) and analysis of these equations produced a technique for modified sensitivity functions by which one can obtain greater accuracy in the approximate solution as compared with the ordinary method. These studies consider the accuracy of the application of sensitivity functions both ordinary functions and functions modified for linear stationary systems, but similar problems for linear nonstationary systems were not sufficiently studied until this article. It is shown that modified sensitivity functions are obtained after an

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BOCHKAREV, A. F., MOSTOVOY, YA. A., Izvestiya vysshikh uchebnykh zavedeniy - Aviatsionnaya tekhnika, No. 2, 1971, pp 5-12

integral transformation of the argument of the system and as distinct from ordinary systems take into account derivatives of the coordinates and parameters of the system. Equations for the modified sensitivity functions in this case contain terms taking into account increments in time-variable parameters under a shift in the approximate solution for balancing the phase of its vibrational component with the phase of the vibrational component of the exact solution. The error in the approximate solution obtained through the use of modified sensitivity functions is considerably less than the error of the approximate solution found with the aid of ordinary sensitivity functions. The modified sensitivity function method is not limited to the class of systems only with "slowly changing coefficients." The only essential factor is the possibility of the linear approximation of the system parameters for the time shift intervals as can occur in the case of rapidly changing parameters with smaller "shift" times.

USSR

UDC 62 - 501.7:629.7.015

BOCHKAREV, A. F., MOSTOVOY, Ya. A.

"Determining Modified Functions of Differential Equations System Sensitivity Describing a Disturbed Motion of an Aircraft"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 3, 1971, pp 15-20

Abstract: Method of obtaining modified functions of differential equations system sensitivity of a disturbed motion of an aircraft is considered. This method makes it possible without a substantial increase in computing time to reduce the error of the approximate solution. It is shown, that in this case, the integral transformation of the argument of the considered system of differential equations can be carried out on the basis of angular motion natural frequency. The obtained modified functions of system sensitivity depend on derivatives with respect to time, on system parameters and coordinates, and make it possible to obtain significantly higher accuracy of approximate solution, than the usual functions.

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USSR UDC 621.396.6-181.5

BOCHKAREV, D. A., RUSYAYKIN, V. G.

"Making Flat Microinductors"

Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry), vyp. 9, Moscow, 1971, pp 30-32 (from RZh-Radiotekhnika, No 12, Dec 71, Abstract No 12V440)

Translation: A technique is developed for making flat microinductors by a winding method instead of chemical etching or vacuum vaporization. Introduction of this technique enables production of microinductors with a high specific inductance of the order of 2-3 $\mu H/cm^2$.

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USSR UDC 669.721.042.6(088.8)

TAGAKIN, A. N., KORZNIKOV, V. M., BELKIN, G. I., ALONTSEV, V. S., PROVODNIKOV, A. A., MAZUROV, G. A., TITAYEV, I. A., PUTINA, O. A., MATSUY, N. V., BOCHKAREV, G. V., NAGIBIN, V. M.

"Method of Processing of Magnesium Ingots"

USSR Author's Certificate No 313908, filed 16/03/70, published 10/11/71, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G248 P by G. Svodtseva).

Translation: A method of processing of Mg ingots including transportation, cooling, mechanical working, washing, etching, drying and covering with a protective layer is proposed. In order to reduce the labor expenditures for the process and process time, the ingots are subjected to forced cooling to 450-100°, mechanically worked during transportation, and washed at 350-100°. This reduces labor consumption, decreases the time of the process, and increases the productivity of labor by 40-80%.

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AA0040675 B Bochkarev, L.M. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-76

241660 TRANSPORTATION OF FINELY DIVIDED CHARGE to a smelting furnace, for example by means of compressed air is characterized in that, in order to reduce consumption of compressed air (or other gas) and to facilitate operation of the furnace, the charge is transported directly into the burner by means of compressed oxygen in the amount required only for this purpose. The rate of oxygen issuing from an ejector is controlled. The proposed method differs from the pneumatic transportation system in that it does not include a dust separating system and intermediate bankers for holding the charge and the gas tube terminates at the melting unit, passing directly into the charge/oxygen vertical or horizontal burners.
15.1.68 as 1211823/22-1. L.M.BOCHKAREV et al(26.8.69)
Bul 14/18.4.69. Class 40a. Int.Cl.C 22b.

18

20

19750277

AA0040675

AUTHORS: Bochkarev, L. M.; Bykhovskiy, Yu. A.; Makarov, D. M.; Paretskiy, V. M.; and Sheynkman, L. K.

19750278

USSR

UDC 621.391:519.2

BOCHKAREV, V. A., KLOVSKIY, D. D.

"Optimal Reception and Potential Noiseproofness in a Multiple Wave Channel with Dispersion and Doppler Shifts"

Radioelektronika v nar. kh-ve SSSR. Ch.1 --V sb.(Radio Electronics in the National Economy of the USSR. Part 1 -- collection of works), Kuybyshev, 1970, pp 53-65 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A60)

Translation: An algorithm is constructed for optimal signal processing in a multiple wave generalized gaussian channel with dispersion and doppler shifts in each wave. The noiseproofness of the algorithm obtained is investigated as applied to binary signals. A comparison is made with noiseproofness in the presence of nonoptimal incoherent reception. It is demonstrated that here, in a single wave channel with dispersion the energy loss by comparison with optimal reception does not exceed 10 decibels. There is 1 illustration and a 3-entry bibliography.

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USSR

UDC 621.396.21:621.391.1

BOCHKAREV, V. A.

"Theory of Optimal Reception in a Dispersion Radio Channel"

Kiev, Izvestiya VUZov SSSR-Radioelektronika, Vol 13, No 2, 1970, pp 230-234

Abstract: The problem of estimating the reliability of communication by the noise immunity of an optimal noncoherent reception of binary frequency telegraphy signals in a single-beam radio channel with dispersion for slow variations of ionosphere electron density and logarithmically normal fading of the signal amplitude is discussed. The method of an earlier paper ("Transmission of Discrete Information by Radio Channels," by D. D. Klovskiy, Izd-vo "Svyas" 1969) is used to solve the problem of estimating communication reliability from noise immunity with certain initial data. It is concluded that the optimal receiver is most critical to fluctuations of plasma frequency in the ionosphere layer within the rather broad limits of ± MHz. For normal operation of the receiver under the condition of slowly fluctuation electron density conditions, there must be a set of filter pairs with each pair compensating for the dispersion distortions in the interval of local steady states with the least amount of error.

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USSR UDC 547.26'118

BOCHKAREV, V. N., POLIVANOV, A. N., BUGERENKO, YE. F., AKSENOV, V. I., and CHERNYSHEV, YE. A.

"Mass-Spectrometric Fragmentation of Triphenyl Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, pp 2348

Abstract: When $P(OPh)_3$ was subjected to electron bombardment, using mass-spectrometer MKh-1303 at 250°C, with an ionizing potential of 30, an interesting rearrangement took place. The mass-spectrum of $P(OPh)_3$ showed an intensive peak (10%) of an ion with m/e 199 $(M-OPh-H_2O)^+$ along with peaks M^+ (m/e 310, 21%), $(M - 1)^+$ (m/e 309, 10%), $(M - OPh)^+$ (m/e 217, 100%), Ph^+ (m/e 77, 27%). Transitions $310^+ \rightarrow 217^+ \rightarrow 199^+$ were verified by the presence of corresponding metastable peaks. It is assumed that an ion with m/e 199 is formed in the following way: at first the diphenoxyphosphinyl cation with m/e 217 rearranges into the isomeric o-hydroxyphenylphenoxyphosphinyl cation, followed by ortho linking of two aromatic rings that leads to the formation of

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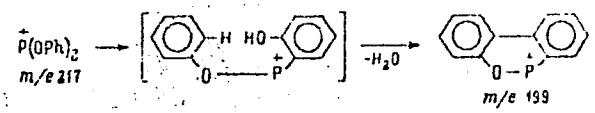
BOCHKAREV, V. N., et al., Zhurnal Obshchehy Khimii, Vol 42 (104), Vyp 10, 1972, pp 2348

9-phospha-10-oxa-9,10-dihydrophenanthrenyl cation.



The spectrum of (I) also showed the rearrangement peaks of ions with m/e 170 $(PhOPh)^+$ 70%, m/e 153 $(PhC_6H_4)^+$ 12%, and m/e 94 $(PhOH)^+$ 20%. When the ionizing voltage in the mass spectrum of (I) reached 15 volts, the relative intensity of ions with m/e 310, 217, 77, 199, 170, 153, and 94 amounted to 47, 100, 2, 2, 4, 5, and 15%, respectively. In other words, the intensity of the rearranged ions decreased sharply.

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USSR UDC: 621.316.925.4

BOCHKAREV, V. N., STEPANOV, G. N.

"Direct-Current Protective Relay with Magnetically Controlled Contacts"

USSR Author's Certificate Number 307459, filed 29/03/69, published 26/08/71 (translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 3, 1972, Abstract No 3 A316 P)

Translation: The authors suggest a direct-current protective relay using magnetically controlled contacts placed on the current-carrying line of the sector being protected and connected in series with charging resistors in each stage of the time-fixing RC circuit to produce an inversely dependent ampere-second characteristic. In order to simplify the circuit, the magnetically congrolled contacts are located in a plane perpendicular to the axis of the conductor at distances directly proportional to the current passing through the conductor.

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1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MASS SPECTROMETRIC STUDY OF AMINODEOXY SUGARS -U-

AUTHOR-(05)-VULFSON, N.S., ZOLOTAREVA, G.M., BOCHKAREV, V.N., SMOLINA, Z.I., UNKOVSKIY, B.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD, NAUK SSSR, SER. KHIM 1970, (2), 437-9

DATE PUBLISHED-------70

B

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MASS SPECTROMETER, SUCROSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0517 STEP NO--UR/0062/70/000/002/0437/0439

CIRC ACCESSION NO--AP0121191

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0121191
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MASS SPECTRA WERE DESCRIBED BY LINE TABULATIONS FOR 10 3,AMINO,3,4,DIDEOXY SUGARS. IN THE MOL. IONS OF THESE SUGARS, A NEW FORM OF RING CLEAVAGE WAS FOUND IN WHICH THE 2-3 BOND IS RUPTURED ALONG WITH THE CYCLIC HEMIACETAL BOND, SO AS TO FORM AFTER MIGRATION OF THE H ATOM TO THE N FRAGMENT, AN ION R SUB2 N PRIME POSITIVE:CHCH SUB2 CHROH AS A RESULT OF ENERGETIC ADVANTAGE OF THIS FORM OF CLEAVAGE VS. THE CONVENTIONAL ONES OBSERVED FOR OTHER SUGAR DERIVS.
FACILITY: INST. KHIM. PRIR. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

B

UDC 621.792.05:621.791:629.12

BOCHKAREV, V. P., and GLEVITSKAYA, T. I.

"The Use of Glue-Welded Joints in Shipbuilding"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 70, pp 30-33

Abstract: Up to now, the basic processes applied in the manufacture of non-bearing structural units for ships have been riveting and argon-arc welding, both of which have significant weaknesses (reduction of bearing capacity of the sheathing, increase in weight and labor input, large deformations--and hence extensive corrective measures). These weaknesses can be avoided entirely by the use of the newly developed technique of spot welding in combination with glue. In general, glue introduced into spot-welded joints increases the static and, especially, the vibrational strength of the structure, protects the joint from corrosion, allows chemical processing of parts following welding, and assures hermetic sealing of the joint. The specific properties of several glues used in Soviet shipbuilding (for welding purposes) are discussed.

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USSR

UDC 615.849.2+616-073.916:546.79

BOCHKAREV, V. V., LEVIN, V. I., STANKO, V. I., SEDOV, V. V., KHARLAMOV, V. T., KOZLOVA, M. D., and TARASOV, N. F., Institute of Biophysics, Ministry of Health USSR

"New Radiopharmaceuticals and Prospects for Their Clinical Use"

Moscow, Meditsinskaya Radiologiya, No 1, 1972, pp 4-12

Abstract: Description of the methods of preparation and most important properties of some recent Soviet-developed radioactive drugs based on relatively short-lived isotopes: (a) In^{111} preparations for liver (colloidal solution) and kidney (citrate complex) scanning; (b) iodobenzoic acid with I^{131} to study liver detoxification function; (c) colloidal solution of Pd^{103} for prolonged and uniform preoperative irradiation of tumors of different sites and sizes; (d) combined oleophilic preparations with different isotopes (Y^{90}, In^{111}, Pd^{103}, Au^{198}) for local irradiation of lymph nodes; (e) X-ray contrast media, iodoethiol and iodolinethol, to visualize lymph nodes; (f) resorptive beta applicator with Y^{90} for the treatment of eye tumors (clinical trials of the applicator in a group of patients with melanoblastomas showed complete or partial resorption of the tumor and no recurrences during the observation period (6 months to 2 years). Improvement in the technology of preparing two important

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BOCHKAREV, V. V., et al., Meditsinskaya Radiologiya, No 1, 1972, pp 4-12

diagnostic agents containing I^{131} albumin macroaggregates (used for scanning in many lung diseases) and polyvinylpyrrolidone (used in the diagnosis of exudative enteropathy and other diseases) has resulted in marked enhancement of their quality.

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USSR UDC: 621.385.6:001.2

SOBOLEV, G. L., BOCHKAREV, V. V.

"Analysis of the Working Characteristics of an Amplitron in the Nonlinear Dynamic Mode. Part 1. Unlimited Cathode Current"

Elektron. tekhnika. Nauch.-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific and Technical Collection. SHF Electronics), 1971, vyp. 2, pp 80-87 (from RZh-Elektronika i yeye Primeneniye, No 6, Jun 71, Abstract No 6A147)

Translation: The authors calculate the basic characteristics of an Amplitron in the nonlinear dynamic mode. The calculation was based on using averaged trajectories of electrons with regard to space-charge fields. It is shown that the effect of the space charge leads to a shift of the band characteristic of the Amplitron toward lower frequencies and cuts off amplification at certain plate voltages. Conditions are determined under which the electronic phase shift is a minimum. Bibliography of ten titles. Resumé.

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1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--USE OF SLIME WATERS AND WATER FROM THE WASHING OF AN OXIDATE DURING THE TREATMENT OF ACID WATERS FROM SYNTHETIC FATTY ACID PRODUCTION -U-

AUTHOR-(04)-BOCHKAREV, YU.A., MAKAROV, S.V., KUDRYASHOV, A.I., RYABYKH, L.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1), 16-17

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, CHEMISTRY

TOPIC TAGS--SLIME, WASTE WATER CONVERSION, WATER, FATTY ACID, CHEMICAL SEPARATION, AIR PURIFICATION EQUIPMENT, WATER RECOVERY, ORGANIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1063 STEP NO--UR/0064/70/046/001/0016/0017

CIRC ACCESSION NO--AP0124720

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124720

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VARIOUS SLIME AND WASHING WATERS FROM THE MANUFG. OF SYNTHETIC FATTY ACIDS CONTAIN 2.3-12.8PERCENT NONVOLATILE SUBSTANCES; THESE SUBSTANCES ARE SPED. AS A RESIDUE BY HEATING TO 130-40DEGREES UNDER 2-8 ATM. THE PRODUCT CONSISTS OF A MIXT. OF FREE ACIDS, LACTONES, LACTIDES, AND NA, K, FE, AND MN SALTS OF ORG. ACIDS. AFTER SEPN. OF THE RESIDUE, THE WATER MAY BE USED FOR THE WASHING OF INCOMING AIR AND FOR THE RECOVERY OF VOLATILE ORG. ACIDS.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LOCAL AND GENERAL DISEASES WITH FUCHS SYNDROME -U-

AUTHOR-(02)-BOCHKAREVA, A.A., DOLZHICH, G.I.

COUNTRY OF INFO--USSR

B

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 52-56

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EYE DISEASE, HYPERTENSION, NERVOUS SYSTEM, THYROID GLAND, PANCREAS, HORMONE, METABOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0116 STEP NO--UR/0357/70/000/003/0052/0056

CIRC ACCESSION NO--AP0129372

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129372

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TOTAL OF 31 PATIENTS WITH FUCHS SYNDROME WERE EXAMINED. FOUR STAGES IN THE DEVELOPMENT OF THIS MORBID CONDITION CHARACTERIZED BY PROGRESSIVELY GROWING DYSTROPHIC CHANGES IN THE IRIS, CRYSTALLINE LENS AND IN THE REGION OF CORNEOSCLERAL TRABECULES WERE ESTABLISHED. IN THE MECHANISM UNDERLYING THE DEVELOPMENT OF GLAUCOMA IN PATIENTS WITH FUCHS SYNDROME THE MOST IMPORTANT PART PLAY DYSTROPHIC CHANGES OF THE CORNEOSCLERAL TRABECULES AND THE IRIS, WHICH TEND TO HAMPER THE OUTFLOW OF THE INTRAOCULAR FLUID. CONSIDERABLE CHANGES OF GLYCERIC CURVES, HYPERCHOLISTEOLEMIA, DYSFUNCITON OF THE VEGETAIVE NERVOUS SYSTEM AND OF SOME ENDOCRINE GLANDS (THYROID AND PANCREATIC) SUGGEST VEGETOHORMONAL DISORDERS TO PLAY A DEFINITE ROLE IN THE PATHOGENESIS OF THE FUCHS SYNDROME. HENCE, IT IS EXPEDIENT TO PRACTICE TREATMENT AIMED AT NORMALIZATION OF THE ACTIVITY OF THE VEGETATIVE NERVOUS SYSTEM, ENDOCRINE GLANDS AND METABOLIC PROCESSES.

FACILITY: KAFEDRA GLAZNYKH BOLEZNEY ROSTOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

USSR UDC: 512.25/.26+519.3:330.115

BOCHKAREVA, I. I.

"An Algorithm for Solving One Class of Problems in Stochastic Programming With Probabilistic Limitations"

V sb. Optimal'n. planirovaniye (Optimum Planning--collection of works), vyp. 16, Novosibirsk, 1970, pp 10-15 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V505)

Translation: For the problem considered in Abstract 9V304, where the condition of α-quasi-concavity is satisfied, the author constructs an iteration process which requires solution of linear programming problems at each step -- the set of permissible vectors y defined by the nonlinear limitation $F(y) \geq \alpha$ is approximated by the convex polyhedron which encloses the set -- each step includes the addition of a tangent to this set in the hyperplane of the point of surface $F(y) = \alpha$ which is closest to the preceding solution (the process is completed if the condition $F(y) \geq \alpha$ is satisfied). The convergence of this algorithm is proved (ascending to the well-known Kelly Method). It is shown that an esti-

USSR

BOCHKAREVA, I. I., Optimal'n. planirovaniye, vyp. 16, Novosibirsk, 1970, pp 10-15

mate of the attained results may be found at every step through the solution of an auxiliary linear problem (where the vector y is replaced by the point of surface $F(y) = \alpha$ mentioned above which is closest to the attained solution). S. Zhak.

USSR UDC: 512.25/.26+519.3:330.115

ABRAMOV, L. M., BOCHKAREVA, I. I.

"On the Problem of Stochastic Programming With Probabilistic Limitations"

V sb. Optimal'n. planirovaniye (Optimum Planning--collection of works), vyp. 16, Novosibirsk, 1970, pp 3-9 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V504)

Translation: The stochastic linear programming problem

$$\min\{c^T x \mid x \geq 0,\ P(Ax \geq b) \geq \alpha\}$$

leads to the deterministic nonlinear problem

$$\min\{c^T x \mid x \geq 0,\ Ax - y = 0,\ F(y) \geq \alpha\}$$

where $F(y)$ is the function of joint distribution of the coordinates of vector b. The authors study the conditions of convexity of the region of permissible vectors of this problem.

If the components of vector b are independent, then the problem reduces to an investigation of the quasi-concavity of the function $F(y) = F_1(y_1) F_2(y_2) \ldots F_m(y_m)$, which is equivalent to verification of the

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ABRAMOV, L. M., BOCHKAREVA, I. I., Optimal'n. planirovaniye, vyp. 16, Novosibirsk, 1970, pp 3-9

condition

$$F(\lambda\bar{y}+(1-\lambda)\bar{\bar{y}}) \geq \min\{F(\bar{y}), F(\bar{\bar{y}})\}, \quad 0 \leq \lambda \leq 1,$$

and always takes place for non-negative concave $F_i(y_i)$. If the function $g(y)$ is continuous and increases monotonically with respect to one of the coordinates, then the equation $g(y) = \alpha$ defines this coordinate as an implicit function ϕ of the remaining coordinates.

The authors prove that under these conditions, the function $g(y)$ is α-quasi-concave when and only when this implicit function ϕ is convex. In the case of double differentiability of the function, this is equivalent to positive definiteness of its Hessian. For independent and identically distributed coordinates of vector b $(F_1 = F_2 = \ldots = F_n = F(t))$, this leads to a simple condition of the type

$$[F'(t)]^2 - F(t)F''(t) \geq 0$$

(sufficient for any t, and necessary for the root of equation $F(t) = \sqrt[m]{\alpha}$) which refutes Soldatov's hypothesis on the convexity of the investigated region for any independent continuous distributions. As examples, the convexity of this region is demonstrated for independent identical normal distributions, gamma and beta distributions. S. Zhak.

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EXISTENCE OF METABORIC ACID IN THE HBO SUB2.NH SUB4 SUB2 SO SUB4.H SUB2 O SYSTEM AT 20 AND 35DEGREES. II -U-

AUTHOR-(04)-BOCHKAREVA, I.V., YERIMBETOVA, I.D., KARAZHANOV, N.A., BEREMZHANOV, B.A.

COUNTRY OF INFO--USSR

B

SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 21-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BORIC ACID, WATER, CRYSTALLIZATION, ISOTHERM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1507 STEP NO--UR/0360/70/020/001/0021/0025

CIRC ACCESSION NO--AP0120238

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120288

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. ISOTHERM OF THE TITLE SYSTEM CONSISTS OF 3 BRANCHES OF CRYSTN. OF WHICH ONE BELONGS TO H SUB3 BO SUB3, ANOTHER TO HBO SUB2, AND THE 3RD TO (NH SUB4) SUB2 SO SUB4; THERE ARE 2 ISOTHERMAL INVARIANT POINTS ON THE ISOTHERM. THE LIQ. PHASE OF THE 1ST ISOTHERMAL INVARIANT POINT CONTAINS (NH SUB4) SUB2 SO SUB4 14.81 AND B SUB2 O SUB3 4.85PERCENT, WHILE THE SOLID PHASE CONTAINS ORTHO AND METABORIC ACID. THE LIQ. PHASE OF THE 2ND ISOTHERMAL INVARIANT POINT CONTAINS (NH SUB4) SUB2 SO SUB4 38.95 AND B SUB2 O SUB3 5.06PERCENT, WHEREAS THE SOLID PHASE CONSISTS OF HBO SUB2 AND (NH SUB4) SUB2 SO SUB4. THE CRYSTN. OF H SUB3 BO SUB3 EXTENDS FROM O CONCN. OF (NH SUB4) SUB2 SO SUB4 TO THE 1ST ISOTHERMAL INVARIANT POINT. THE CRYSTN. OF HBO SUB2 EXTENDS FROM THE POINT AT WHICH H SUB3 BO SUB3 CHANGES TO HBO SUB2 TO THE 2ND ISOTHERMAL INVARIANT POINT. THE CRYSTN. OF (NH SUB4) SUB2 SO SUB4 EXTENDS FROM O CONCN. OF H SUB3 BO SUB3 TO ITS INTERSECTION WITH THE HBO SUB2 CRYSTN. BRANCH OF THE ISOTHERM. AT 20-35DEGREES, THE AMT. OF HBO SUB2 INCREASES WITH TEMP. THE CONCN. OF (NH SUB4) SUB2 SO SUB4 AT WHICH HBO SUB2 IS STABLE AT 20DEGREES IS 22.40PERCENT AND AT 35DEGREES IT DROPS TO 14.81PERCENT.

FACILITY: KAZ. GOS. UNIV. IM. KIROVA, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC: 621.382.2

BOCHKAREVA, L. V., SIMASHKEVICH, A. V., and FERDMAN, N. A., V. I. Lenin Kishinev State University, Institute of Applied Physics

"Effect of Laser Excitation on the Photoelectrical Characteristics of ZnSe-ZnTe Heterojunctions"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1603-1604

Abstract: Results are given of experiments conducted by the authors for studying some of the photoelectrical characteristics of ZnSe-ZnTe heterojunctions under the excitation of a ruby laser beam with an energy of 1.76 ev. Such heterojunctions, in spite of their interesting faculty of emitting visible light when a current is put through them, have not undergone much study. The specimens were formed by mosaic monocrystalline ZnSe layers sputtered in a vacuum on ZnTe crystals in the (110) plane, with an aluminum contact fastened to the ZnSe and a gold one applied to the ZnTe, and were sensitive to light in the range of 0.4 to 0.65 μ in wavelength. Curves are plotted for the the emf of the specimen in this range

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USSR

UDC: 621.382.2

BOCHKAREVA, L. V., et al, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1603-1604

with no laser excitation as a function of the wavelength, and for the same with laser excitation, and an interpretation is given. The authors of this brief communication thank V. A. Kovarskiy for his interest in the work and his comments on the results.

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USSR

UDC: 539.67:620.178

MATVEYEV, V. V., CHAYKOVSKIY, B. S., BOCHAROVA, L. A., Institute of Strength Problems, Academy of Sciences of the UkrSSR

"Damping Properties of Turbine Blade Materials at Working Temperatures"

Kiev, Problemy Prochnosti, No 4, Apr 73, pp 8-14

Abstract: The paper analyzes the results of a systematic examination of the damping properties of twenty kinds of turbine blade materials heat treated in different ways (41 states in all were investigated). The studies were done by a standard procedure under normal and high-temperature conditions on specimens with working sections of 4 x 15 x 150 and 2 x 4 x 100 mm subjected to pure bending oscillations on the D-5 and D-7 testing machines. The frequency of oscillations ranged from 10 to 50 Hz. The damping properties of all materials were found to depend to some extent on the amplitude of cyclic damping and temperature. Titanium, aluminum and nickel alloys characteristically show a very slight increase in logarithmic decrement with increasing stress. The logarithmic decrement was found to be most highly dependent on amplitude for steels of the martensite-ferrite class. The logarithmic decrement generally increased

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MATVEYEV, V. V. et al., Problemy Prochnosti, No 4, Apr 73, pp 8-14

with temperature. Exceptions are noted and explained. A diagram is given comparing the logarithmic decrement for these materials at normal and maximum working temperatures. An examination of this diagram shows that steels of the martensite and martensite-ferrite classes with pronounced magnetomechanical hysteresis (DI-5, EZh1, EI961) have the best damping properties at normal and working temperatures not exceeding 600°C. Titanium alloys showed the poorest damping properties.

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B

USSR

UDC: 620.193.43

KOCHERGIN, V. P., BOCHKAREVA, N. N., and YARYSHEVA, I. A., Ural State University imeni A. M. Gor'kiy

"Corrosion and Stationary Potentials of Carbon Steel in Molten Sodium, Potassium and Calcium Chlorides"

Moscow, Zashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 457-459

Abstract: Molten sodium, potassium, and calcium chlorides are widely used on heat treating lines for steel parts; however the data on carbon steel corrosion in these media are far from adequate. The effect of the carbon content in the steel on corrosion rate has so far been studied only in aqueous solutions, and sometimes with conflicting conclusions. A curve reflecting the relationship between the stationary potential and the mean corrosion rate of U7 steel in molten KCl at 850°C shows that a higher carbon content shifts the stationary potential first to negative and then

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USSR

KOCHERGIN, V. P., et al, Zashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 457-459

to positive values with the mean corrosion rate passing through the maximum. A corresponding curve for the eutectic mixture $CaCl_2$-NaCl at 575°C is the exact opposite. In both cases an increase in the mean corrosion rate corresponds to the shift of the stationary potential to negative values. The above effect of carbon is related to changes in the structure of the steel. At 850°C with up to 0.2% C, the steel comprises ferrite and austenite; within 0.7--1.2% C, -- austenite and secondary cementite. Carbon steels containing austenite feature a lower corrosion resistance in molten KCl at 850°C. Addition of more than 0.2% NaOH to molten KCl moves the stationary potential to positive values even more intensively. The opposite change in the potential is observed by adding KCl to the eutectic mixture $CaCl_2$--NaCl at 575°C. The obtained data on the effect of NaCl, KCl, and $CaCl_2$ on the stationary potential of U7 steel agree well with those obtained by other researchers in determining the potentials of beryllium, zirconium, and titanium in molten halides of alkali and alkali-earth metals.

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Acc. Nr. AP0034071 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code UR0078

74276c Thermographic study of the reaction of $Bi_4Ti_3O_{12}$ with vanadium pentoxide and molybdenum and tungsten trioxides. Smolyaninov, N. P.; Morozova, A. P.; Bochkareva, O. B. (Azovo-Chernomor. Inst. Mekh. Sel. Khoz., Zaporozh'e, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 253-61 (Russ). Reactions of $Bi_4Ti_3O_{12}$ with V_2O_5, MoO_3, and WO_3, resp., were studied thermographically and by DTA. $Bi_4Ti_3O_{12}$ reacts with these oxides to give $BiVO_4$, Bi_2MoO_6, Bi_2WO_6, and TiO_2. HMJR

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REEL/FRAME
19710714

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--OXICATION OF TRIVALENT CHROMIUM -U-

AUTHOR-(05)-YAKOBI, V.A., BOCHKAREVA, T.P., KOZOREZ, L.A., CHUSOVA, L.L., SHPAK, L.P.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,106

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--26JAN70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METAL OXIDATION, CHROMIUM, CHEMICAL PATENT, OZONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1465 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0126996

UNCLASSIFIED

2/2 018 UNCLASSIFIED

CIRC ACCESSION NO--AA0126996 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CR PRIME3POSITIVE IS OXIDIZED TO CR PRIME6POSITIVE IN AN ACIDIC MEDIUM IN THE PRESENCE OF MN COMPDS. (E.G. MNCL SUB2) WITH OZONIZED AIR. FACILITY: RUBEZHANSKIY FILIAL KHAR'KOVSKOGO ORDENA LENINA POLITEKHNICHESKOGO INSTITUTA IM V. I. LENINA.

UNCLASSIFIED

USSR

UDC: 621.311.21.004(282.251.2)

BOCHKIN, A. E., LISKUN, E. E., EPIFANOV, A. P., KOKOT, D. M., STARSHINOV, S. N., Engineers

"On Condition of Krasnoyarskaya GES Dam during First Years of Operation"

Moscow, GidrotekhnicheskoyeStroitel'stvo, No. 4, April, 1971, pp 12-19

Abstract: The subject dam is 124 meters high. It has a triangular cross-section. The upstream face is vertical. It rests on granite rock.

Measures were taken to prevent crack formation by controlling the temperature regime. 1,289 cracks were detected on the piers during the period from 1961 to 1968, which is one-third the number of cracks on Bratskaya GES.

Joints between blocks were periodically inspected ultrasonically for three years after being cemented. Most of them showed increased strength, 20% indicated a slight opening of the joint near the edge.

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USSR

BOCHKIN, A.E., et al, Gidrotekhnicheskoye Stroitel'stvo, No 4, April 1971, pp 12-19

The filling of the reservoir started in 1967 and was completed in 1969. Temperature of water at various depths was monitored.

Seeping of water was observed because it is an indication of tension stresses on the upstream face. The seeping decreased from 1967 to 1969.

Vertical and horizontal displacements of various points of the dam were determined optically. Measurements indicated the settling of the foundation on the upstream face of the dam, probably due to the weight of water. Horizontal displacements reached 15 mm.

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USSR

UDC: 681.327

BOCHKIN, Yu. Ya., ZHIVOV, N. P., KUBANIN, Yu. Z., MOROZOV, V. Ye., RYZIKOV, M. L., Central Scientific Research Institute of Large-Scale Automation

"Pneumoelectronic Accumulator of Statistical Information"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335705, Division G, filed 29 Jun 70, published 11 Apr 72, p 211

Translation: This Author's Certificate introduces a pneumoelectronic accumulator of statistical information. Connected to the input channels is a pneumocommutator controlled by an address selection module. This commutator is connected in series to a normalizer. The accumulator also contains an analog-digital converter connected through a counter to a data output module whose output is connected to a printer and a puncher. The accumulator also includes a control unit connected to a timer, to the analog-digital converter, and to the data output module. As a distinguishing feature of the patent, in order to extend the range of signals which can be monitored and to simplify the design, an electric input signal commutator, normalizer, and adder are incorporated in the device. The con-

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USSR
BOCHKIN, Yu. Ya. et al., USSR Author's Certificate No 335705

trolling input of the electric signal commutator is connected to the address selection module, and the output is connected through the extra normalizer to the adder. The output of the adder is connected to the analog-digital converter, and a second input of the adder is connected through the main normalizer to the pneumccommutator.

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1/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF ZINC SULFATE ON THE FORMATION AND PROPERTIES OF A POLYNOSIC FIBER -U-

AUTHOR-(04)-BOCHKINA, V.S., NIKOLAYEVA, N.S., MOGILEVSKIY, YE.M., MIKHAYLOV, N.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. VOLOKNA 1970, (2), 46-9

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ZINC COMPOUND, SULFATE, COAGULATION, SYNTHETIC FIBER, TENSILE STRENGTH, ELONGATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0832 STEP NO--UR/0183/70/000/002/0046/0049

CIRC ACCESSION NO--AP0124499

UNCLASSIFIED

2/2 029 UNCLASSIFIED

CIRC ACCESSION NO--AP0124499 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INCREASE OF ZNSO SUB4 CONCN. FROM 0-0.6 G-L. IN THE COAGULATING BATH INCREASES THE POLYNOSIC FIBER TENSILE STRENGTH AT BREAK (SIGMA) AND ITS ELONGATION AT BREAK (EPLISON). THE CONTINUING INCREASE OF ZNSO SUB4 CONCN. ABOVE 6 G-L. LEVEL DECREASES SIGMA BUT INCREASES EPLISON. THE ADDN. OF 1.5PERCENT (ON ALPHA CELLULOSE) POLY(ETHYLENE GLYCOL) MODIFIER TO THE VISCOSE HAS NO EFFECT ON THE CHANGES OF EPLISON AND SIGMA WITH ZNSO SUB4 CONCN. THESE EFFECTS ARE ASSOCD. WITH PH CHANGES OF THE COAGULATING BATH AND THE CHANGED CONCNS. OF ZNS AND ZNSO SUB4.

UNCLASSIFIED

USSR

UDC: 621.317.3

BOCHKOV, G. N.

"On the Possibility of Measuring the Spectra of Fluctuations in Parameters"

Uch. zap. Gor'kovsk. un-t (Scientific Notes of Gor'kiy University), 1970, vyp. 105, pp 10-15 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A312)

Translation: The author solves the problem of determining the spectra of fluctuations in some elements which make up a resonance system (tank circuit), specifically the fluctuations in capacitance and resistance, and in his own opinion gives a more successful solution than other works for the problem of separating these fluctuations. The limiting technical possibilities for measuring the spectra of fluctuations in parameters are evaluated. Bibliography of twelve titles. E. L.

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USSR

ANAN'YEVSKIY, M. G., BOCHKOV, N. G., SPEVAK, YE. YA., PARFENOV, G. V., and MYL'NIKOV, R. M.

"The Effect of Vanadium, Titanium, and Boron Modification on the Structure, Magnetic Properties, and Aging of Electric Unalloyed Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 1(79) Jan/Feb 73, pp 36-38

Abstract: In order to prevent E0100-E0300 electric steels from magnetic aging, which takes place primarily on account of nitrogen, an attempt was made to modify these steels with vanadium, titanium, and boron. Magnetic properties, aging coefficient, and microstructure of modified steels were studied after 200 hours of heat treatment at 120°C. Addition of 0.02-0.03% Ti (as ferrotitanium) to molten steel almost completely suppressed the magnetic aging while the magnetic reversal losses were $P_{1.5/50} = 9.3$ W/kg. Higher amounts (0.04%) of titanium decreased considerably the size of grains. The aging of steel was completely suppressed with the addition of 0.03-0.06% V (as ferrovanadium) but the magnetic reversal losses were $P_{1.5/50} > 9$ W/kg. High magnetic reversal losses in this case are attributed to small ferrite grains formed in steel (10-9 relative units, control 8-9 relative units).

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USSR

ANAN'YEVSKIY, M. G., et al., Metallurgicheskaya i Gornorudnaya Promyshlennost', No 1(79), Jan/Feb 73, pp 36-38

Boron in amount 0.0025-0.0030% was ineffective with respect to magnetic properties of steel, while it made the steel structure nonuniform. The concentration of nitrogen in steel increased with increasing concentration of Ti and V. For practical purposes the use of Ti as a modifier is recommended.

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USSR

BOCHKOV, N. P.

Khromosomy cheloveka i oblucheniye (Human Chromosomes and Irradiation), Moscow, Atomizdat, 1971, 168 pp

Translation: Annotation: Material is systematized and correlated in this monograph about the cytogenetic effects of the action of ionizing radiation on germ and somatic cells of man. This is the first book in the world literature on this subject. The effect of irradiation of the parents on the frequency of chromosome diseases of their children is investigated, and also the effect of irradiation on the chromosomes in somatic cells in vivo and in vitro, and a quantiative analysis is given of the effect of radiation on human chromosomes. A description is given of the method used in recording chromosome aberrations for biological radiation monitoring. The book is illustrated with original photographs, diagrams and tables.

The book is designed for a wide circle of specialists in genetics, physicians, and radiobiologists.

There are 61 tables, 595 bibliographic references, and 34 illustrations.
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USSR

BOCHKOV, N. P., Khromosomy cheloveka i oblucheniye, Moscow, Atomizdat, 1971, 168 pp

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BOCHKOV, N. P., Khromosomy cheloveka i oblucheniye, Moscow, Atomizdat, 1971, 168 pp

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BOCHKOV, N. P., Khromosomy cheloveka i oblucheniye, Moscow, Atomizdat, 1971, 168 pp

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USSR

UDC 576.312.342

BOCHKOV, N. P., KULESHOV, N. P., SERGEYEV, A. S., and YAKOVENKO, K. N., Institute of Medical Genetics, Academy of Sciences USSR, Moscow

"Identification of Human Chromosomes Forming Dicentrics After Irradiation"

Moscow, Genetika, Vol 6, No 4, 1970, pp 179-185

Abstract: Peripheral-blood leukocytes of three adult men were irradiated with x-rays in a dose of 92 rad. The culture time was 54 hours, so that metaphases of the first postirradiation mitosis were investigated. A karyotype analysis of cells with dicentrics was conducted. The experimental frequency of involvement of chromosomes in the formation of dicentrics differs from the theoretically expected one, both in respect to the length of chromosomes, and their numbers. The involvement of chromosomes in dicentrics is not random. Chromosomes of the D and E' groups are involved more frequently, while the G group is involved less frequently than expected due to the length of chromosomes. Also, the dicentrics consisting of C and E, D and D, E' and E, F and G chromosomes occur more frequently, while those of I and I, C and G occur less frequently than theoretically expected. These differences are explained on the basis of different distribution of chromosomes in the nucleus.

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USSR

BOCHKOV, V. S., Physicotechnical Institute of Low Temperatures, Khar'kov

"Effect Which the Size of the Specimen Has on Galvanomagnetic and Thermomagnetic Effects in Semiconductors"

Leningrad, Fizika Tverdogo Tela, Vol 13, No 9, Sep 71, pp 2535-2542

Abstract: The author investigates the transverse Hall and Nernst-Ettingshausen effects in semiconductor specimens with a thickness of the order of the mean free path of electrons, which is related to energy transfer. It is found that in the case of isothermal boundary conditions, the relation between the magnitude of these effects and the magnetic field differs appreciably from the analogous relations in massive specimens. In weak magnetic fields there may be a change in the sign of both effects; in strong magnetic fields the field of the Nernst-Ettingshausen effect is saturated. The dimensions of the specimen have a much more pronounced effect on transverse galvanomagnetic and thermomagnetic effects than in the case of longitudinal fields. The author thanks F. G. Bass and Yu. G. Gurevich for interest in the work and constructive criticism. Two figures, bibliography of seven titles.

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TITLE--INFLUENCE OF SAMPLE SIZE ON THE VOLT AMPERE CHARACTERISTIC IN MEDIA WITH AN AMBIGUOUS DEPENDENCE OF ELECTRON TEMPERATURE ON FIELD STRENGTH

AUTHOR-(03)-BASS, F.G., BOCHKOV, V.S., BUREVICH, YU.G.

B

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENERGY BALANCE EQUATION IS SOLVED AND ALL POSSIBLE STATIONARY DISTRIBUTIONS OF ELECTRON TEMPERATURE OVER THE CROSS SECTION OF A FINITE SIZE SAMPLE ARE DETERMINED. A CLASSIFICATION OF THE DISTRIBUTIONS IS PRESENTED. ONLY ONE OF THEM IS STABLE WITH RESPECT TO SMALL PERTURBATIONS; DEPENDING ON SAMPLE SIZE AND ELECTRIC FIELD STRENGTH THIS MAY BE EITHER A HOMOGENEOUS OR MONOTONOUS DISTRIBUTION. FOR SUFFICIENTLY THICK SAMPLES THERE EXIST RANGES OF FIELD STRENGTH VALUES FOR WHICH NOT A SINGLE SOLUTION EXISTS. THIS LEADS TO HYSTERESIS IN THE VOLT AMPERE CHARACTERISTIC. VOLT AMPERE CHARACTERISTICS FOR SAMPLES WITH DIFFERENT TRANSVERSE DIMENSIONS ARE PLOTTED. FACILITY: INSTITUT RADIOFIZIKI I ELEKTRONIKI, AN UKR. SSR FIZIKO-TEKHNICHESKIY INSTITUT NIZKIKH TEMPERATURE, AN UKR. SSR.

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POPOV, YU. A., BOCHKOV, YU. M., and TARAKANOV, L. A.

"Evaporation of Manganese, Nickel, and Iron by Cathode Ray Remelting of Iron-Nickel Alloy"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 155-158

Translation: The rates of evaporation of iron and nickel during cathode ray remelting of iron-nickel alloy are calculated. Experimental and calculated data are compared. The relationship of concentrations of iron and nickel in the surface layer during cathode ray remelting is determined.
Data are presented on the evaporation of manganese, and on its distribution through the cross section of the ingot as a function of melting rate. 2 figures; 2 tables; 2 biblio. refs.

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